

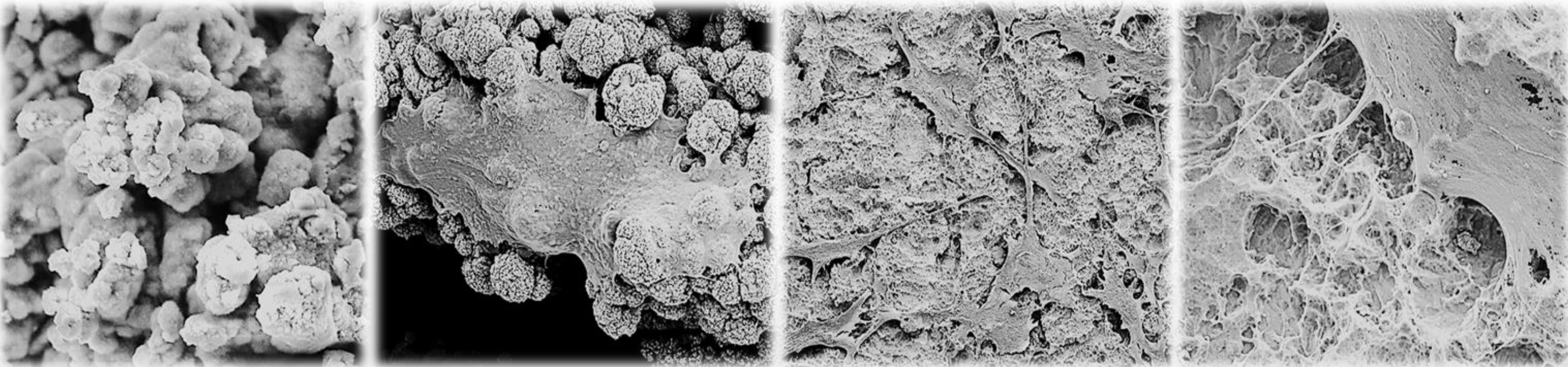


**Europäische Union  
Evropská unie**  
Europäischer Fonds für  
regionale Entwicklung  
Evropský fond pro  
regionální rozvoj

# Virtual Symposium



**Ziel ETZ | Cíl EÚS**  
Freistaat Bayern –  
Tschechische Republik  
Česká republika –  
Svobodný stát Bavorsko  
2014 – 2020 (INTERREG V)



## Advancing the interface: biomaterials & regenerative cells



**11th November 2021**  
**09:30 am – 04:30 pm CET**



**Hosts:** *Prof. Denitsa Docheva & Assoc. Prof. Tomáš Křenek*

### Keynote speakers

**Molly Stevens**



Dep. of Materials &  
Bioengineering  
Imperial College London

**Fintan Moriarty**



AO Research Institute  
Davos

**Štěpán Stehlík**



Institute of Physics of the  
Czech Academy of Sciences

**Michael Maas**



University Bremen

### Main topics

- **novel biomaterials**
- **biomaterial functionalization**
- **biomedical engineering**
- **biomaterial-guided cell fate**
- **cell responses in vitro / in vivo**
- **clinical applications**

Participation is **free of charge**

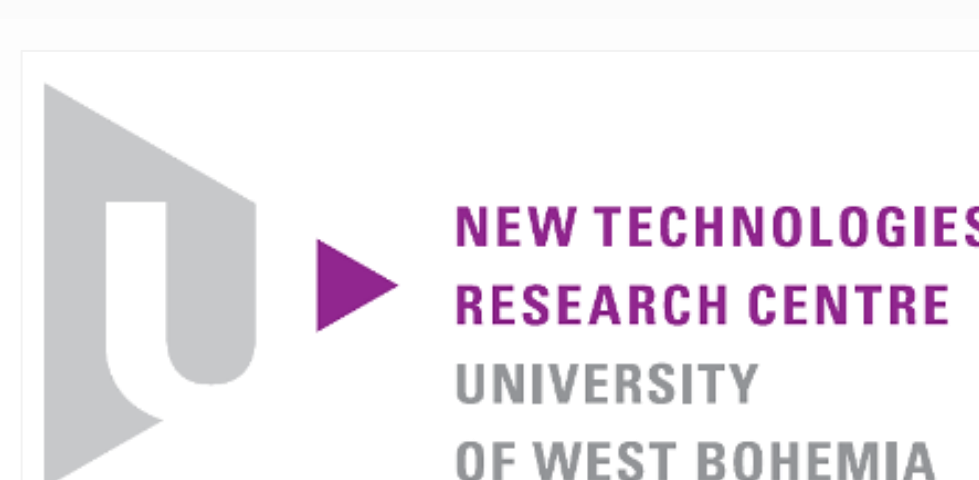
**Visit us:**



**Registration via e-mail:**

[meldra.langenfelde@ukr.de](mailto:meldra.langenfelde@ukr.de)

**Affiliation Bavarian Partner:**  
Experimental Trauma Surgery  
Department of Trauma Surgery  
University Hospital Regensburg, Germany



**Affiliation Czech Partner:**  
New Technology Research Centre  
University of West Bohemia  
Pilsen, Czech Republic

Project 201 MATEGRA: Enhanced porous biomaterials functionalized with stem cells for improved osteointegration of implants



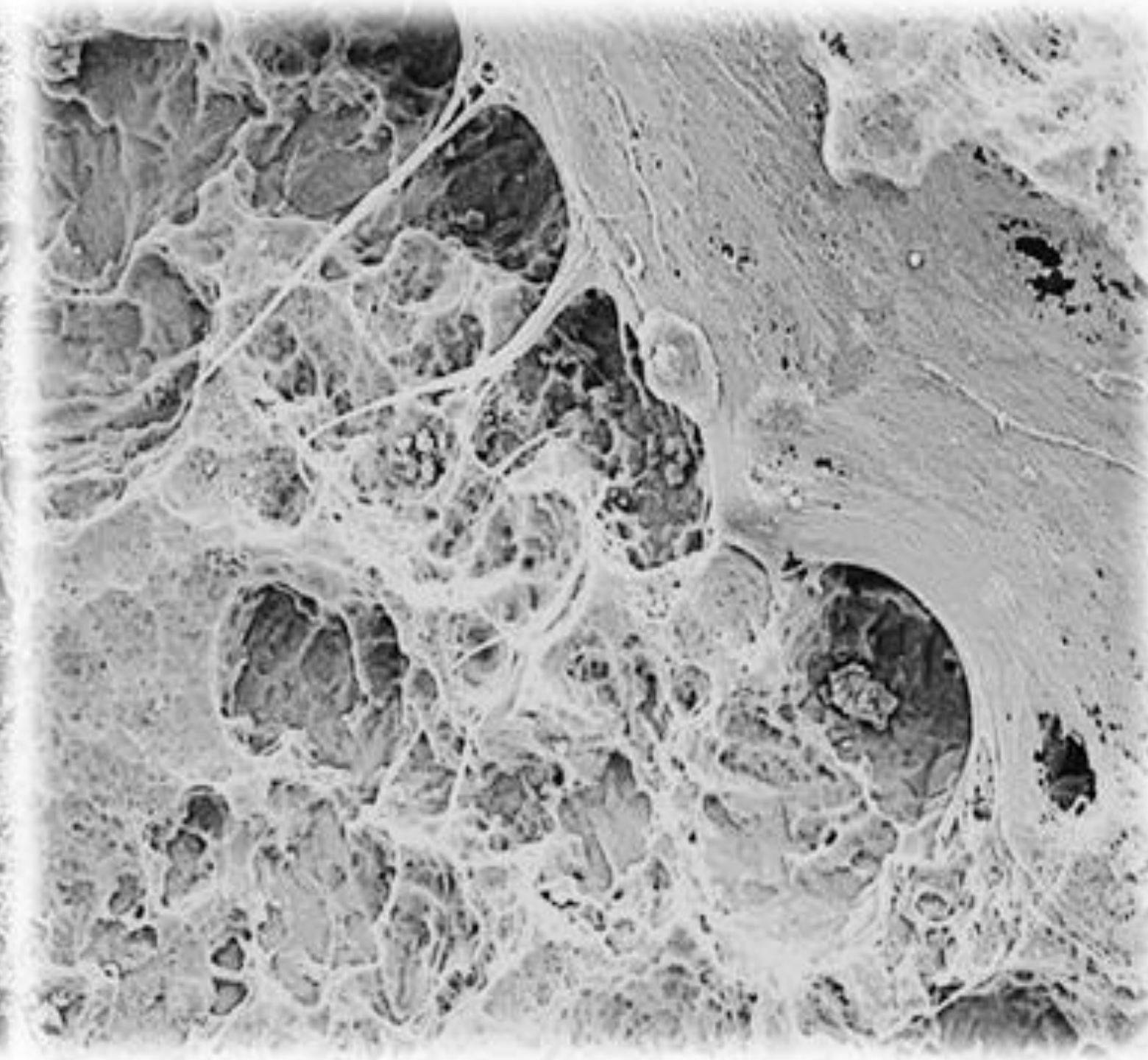
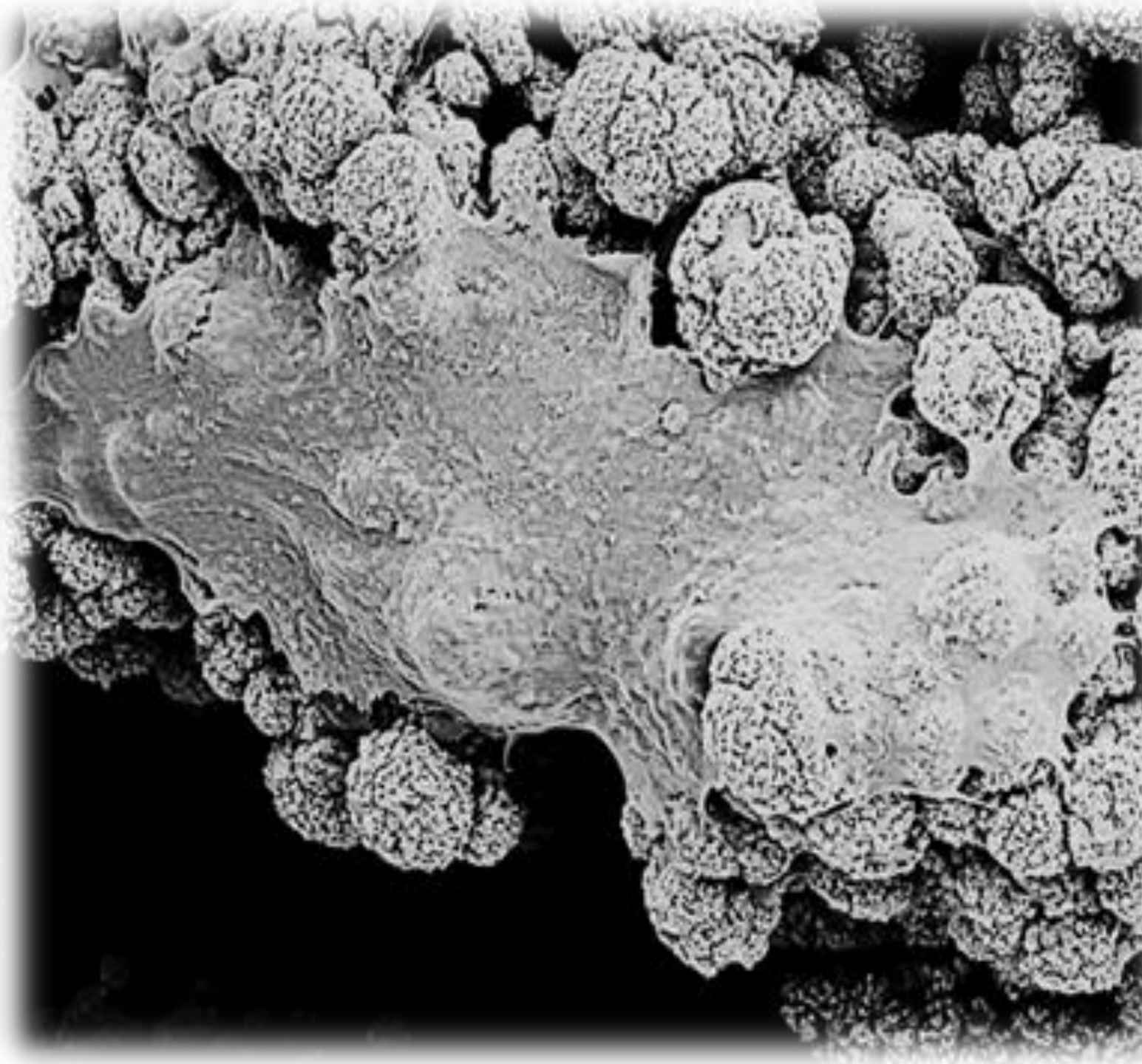


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## Advancing the interface: biomaterials & regenerative cells

### Session 1: biomaterial advancement

09:30 – 09:45 **Opening**

09:45 – 10:15 **KEYNOTE LECTURE**  
**Porous ceramics for biotechnological applications**  
*Dr. Michael Maas, University Bremen, GER*

10:15 – 10:30 **MATEGRA PROJECT**  
**Laser-induced incorporation of bioactive nanoparticles onto porous titanium surfaces**  
*Dr. Tomáš Křenek, University of West Bohemia, Pilsen, CZ*

10:30 – 10:45 **MATEGRA PROJECT**  
**Sol-gel derived silica-phosphate glasses: thermal properties and porosity architecture**  
*Dr. Tomáš Kovářík, University of West Bohemia, Pilsen, CZ*

10:45 – 11:00  
**Synthesis and characterisation of collagen based bio-ink for 3D printed meniscus with improved mechanical properties**  
*Alfredo Ronca, Institute of Polymers, Composites and Biomaterials – National Research Council, Naples, IT*

11:00 – 11:15  
**Laser texturing of titan surfaces by shifted method for bio applications**  
*Denis Moskal, University of West Bohemia, Pilsen, CZ*

11:15 – 11:30  
**Biocompatible flexible hydrogel films based on chitosan, cellulose/ starch, pva and pedot:pss with extraordinary mechanical properties**  
*Jagan Mohan Dodda, University of West Bohemia, Pilsen, CZ*

11:30 – 11:45  
**Two-Dimensional MXenes for Versatile Biomedical Applications**  
*Deshmukh Kalim, University of West Bohemia, Pilsen, CZ*

11:45 – 12:00  
**Structural, thermal and viscoelastic properties of nanodiamond-reinforced poly (vinyl alcohol) nanocomposites**  
*Tomáš Remiš, University of West Bohemia, Pilsen, CZ*

12:00 – 12:30 **KEYNOTE LECTURE**  
**Nanodiamonds: key properties for controlled interactions with biosystems**  
*Dr. Ing. Štěpán Stehlík, Institute of Physics of the Czech Academy of Sciences, CZ*

12:30-13:30 Lunch break

### Session 2: biological responses

12:30-13:30 Lunch break

13:30 – 14:00 **KEYNOTE LECTURE**  
**Exploring and engineering the cell material interface**  
*Prof. Molly M. Stevens, Imperial College London, UK*

14:00 – 14:30 **MATEGRA PROJECT**  
**Nano-micro patterning of biomaterial surfaces via laser texturing significantly improves in vitro osteogenesis**  
*Theresa Stich, University Clinic Regensburg, GER*

14:30 – 14:45  
**Collagen scaffold for meniscus treatment: influence of the inflammatory environment**  
*Girish Pattappa, University Clinic Regensburg, GER*

14:45 – 15:00  
**Antibacterial and antibiofilm properties of silver- and zinc-based nanostructured coatings**  
*Daniele Ghezzi, IRCCS Istituto Ortopedico Rizzoli, Bologna, IT*

15:00 – 15:15  
**Novel cells-instructive biomimetic coatings by ionized jet deposition**  
*Gabriela Graziani, IRCCS Istituto Ortopedico Rizzoli, IT*

15:15 – 15:30  
**Multifunctional surfaces with cell-instructive and antibacterial properties**  
*Manuel Gomez-Florit, 3B's Research Group, University of Minho, PT*

15:30 – 15:45  
**Thermosensitive chitosan-collagen hydrogel as a delivery system for marine polysaccharide fucoidan and adult atem cells in the context of bone regeneration**  
*Julia Ohmes, Experimental Trauma Surgery, University Medical Center Schleswig-Holstein, Kiel, GER*

15:45 – 16:15 **KEYNOTE LECTURE**  
**Role of implant material and biomechanical stability on fracture-related infection**  
*Dr. Fintan Moriarty, AO Research Institute, Davos, CH*

16:15-16:30 Closing remarks